

by him and his pupils appeared in the *Astrophysical Journal* as "Tables of the Arc Spectra of the Elements."

Professor Rowland's personal character is well described in the following extract from an eloquent address by Dr. Gilman, the President of the Johns Hopkins University: "Above his keen perceptions, his logic, his adaptation of means to ends, and his marvellous concentration I must place his love of truth. He was true in all his investigations, careful to eliminate errors, to avoid misconceptions, to shrink from hasty conclusions and inferences, to be critical of other investigations, to be accurate, exact, conscientious, to spare no pains, to shrink from no efforts, to conceal no difficulties, in order that the absolute facts might be established, as far as this can be done, by limited humanity. To him science was another word for truth—not all the truth, but that amount of truth which the limited powers of man have discovered. He was a follower of Isaac Newton, picking up from the seashore a few pebbles and discerning their lessons."

Professor Rowland was a member of many learned societies in Europe and America. He was elected an Associate of the Royal Astronomical Society on the 9th of December 1898. He died at his home in Baltimore on the 16th of April 1901. His body was cremated and the ashes buried beneath his famous ruling engine.

TRUMAN HENRY SAFFORD was born on the 6th of January 1836, at Royalton, Vermont. In extreme youth he possessed extraordinary powers of arithmetical calculation, of which an account is given in *Chambers's Edinburgh Journal* for October 1847. These powers were not in his case intuitive, but were improved by study and practice, and at a very early age he obtained a knowledge of algebra and geometry. His father wisely decided to give him a good education, and at the age of ten he was placed under the charge of Professor Everett and Professor Peirce at Harvard College. In 1854 he graduated at Harvard, and immediately obtained employment at the Observatory. He remained at Harvard College Observatory for twelve years, and during this time published a number of Elements and Ephemerides of Comets and Minor Planets in the *Astronomical Journal*, and contributed several papers to the *Monthly Notices*. The most interesting of the latter is a determination of the orbital motion of *Sirius* from the observations of declination. In 1860 he prepared a Catalogue of the Declination of 532 Stars culminating near the Zenith of the Harvard College Observatory, for use in the survey of the Great Lakes in the determination of latitude by Talcott's method. In 1865, after the death of Professor Bond, Professor Safford was for a short time in charge of the Observatory. During this time he brought out vol. iv. of the *Annals*, consisting of a Catalogue of Standard Right Ascensions of Clock Stars and Close Polars. He also edited

vol. v., "Observations upon the Great Nebula of *Orion*," which was left unfinished by Professor Bond.

In 1866 Professor Safford was appointed first Director of the Dearborn Observatory at Chicago, and devoted himself to observations of nebulae with the 18-inch equatorial. In consequence of the great fire of 1871, the Observatory, which was supported by private munificence, could no longer be maintained, and Professor Safford from 1871-1876 was obliged to leave astronomy for geodetic work for the United States Government. In the latter year he was appointed Professor of Astronomy at Williams College, Williamstown, Massachusetts, a post which he continued to hold till his death on the 13th of June 1901. Although his professorial duties left him but little time for research, his interest in the progress of astronomy was maintained, especially in the improvement in the accuracy of right ascensions and declinations of stars both by further observation and also by discussion of existing star catalogues. He chose as his particular field the region near the North Pole, and brought out a catalogue of the right ascensions of 133 stars within 10° of the Pole, and contributed to the *Monthly Notices* several papers on the comparisons of various catalogues in this part of the sky.

Professor Safford was a devoted and painstaking astronomer, and in the course of the nearly fifty years of his astronomical career he accomplished a considerable amount of useful work. He was elected an Associate of the Society in 1866.

CHRISTIAN WILHELM SCHUR was born at Altona on the 15th of April 1846. He was a relative of Dr. Petersen, the Director of the Altona Observatory, from whom he derived an early inclination to astronomy. In 1863 he went to the University of Kiel and proceeded to Göttingen in 1866, where he obtained his doctor's degree for a thesis on the orbit of *70 Ophiuchi*. From Göttingen Dr. Schur went to Berlin and assisted Dr. Auwers in the re-reduction of Bradley's Observations, and afterwards worked for some time at the Observatory with Dr. Foerster. He was next appointed an assistant at the Geodetic Institute, where he remained till 1873, when he received an invitation from Dr. Winnecke to the Observatory at Strassburg, which had been recently rebuilt. He continued as an observer at Strassburg for ten years, except that in 1874 he went to the Auckland Islands with Drs. Seeliger and Wolfram to make heliometric observations of the transit of *Venus*. While at Strassburg he made heliometric observations of *Jupiter's* satellites, and made a large number of observations of variable stars. He succeeded Winnecke as Director of the new observatory, and spent some years in getting it into order. In 1886 he became Director of the Göttingen Observatory. Here his first task was the publication of Klinkerfues' Zone Observations. When this was finished he was able to devote himself to observations with the Repsold 6-inch heliometer. He